p1103: Factoring with box when $a = $ prime (v12)

Example

Use the box to factor $2x^2 - 9x - 18$.

Guess and check, based on factor pairs of -18, until you find the pair that results in a linear coefficient of -9 after combining like terms.

*	x	−6
2x	$2x^2$	−12x
3	3x	−18

$2x^2 - 12x + 3x - 18$

Combine like terms.

$2x^2 - 9x - 18$

ANSWER: $(2x + 3)(x - 6)$

Question 1

Use the box to factor $5x^2 + 34x + 24$.

*	x	6
5x	$5x^2$	30x
4	4x	24

ANSWER: $(5x + 4)(x + 6)$

Question 2

Use the box to factor $7x^2 + 60x - 27$.

*	x	9
7x	$7x^2$	63x
− 3	− 3x	− 27

ANSWER: $(7x - 3)(x + 9)$

Question 3

Use the box to factor $3x^2 - 13x + 12$.

*	x	− 3
3x	$3x^2$	− 9x
− 4	− 4x	12

ANSWER: $(3x - 4)(x - 3)$